

Statement of Volatility – Dell Latitude 5450

⚠ CAUTION: A CAUTION indicates either potential damage to hardware or erasure of data and tells you how to avoid the problem.

The Dell Latitude 5450 contains both volatile and non-volatile components. Volatile components erase their data immediately after power is removed from the component. Non-volatile components continue to retain their data even after power is removed from the component. The following non-volatile components are present on the Dell Latitude 5450 system board.

Table 1. List of non-volatile components on system board

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to erase data)
LCD Panel EDID EEPROM	Part of panel assembly	Non-volatile memory, stores panel manufacturing information, display configuration data.	No	Not applicable
System BIOS/EC Firmware	UE1 (EC MEC5200M) UC2	Non-volatile memory, Video BIOS for basic boot operation, PSA (on board diagnostics), PXE diagnostics.	No	Not applicable
System Memory – DDR5 memory	Two SODIMM connectors: JDIMM1,2 present	Volatile memory in OFF state. NOTE: See state definitions later in the text. One to two modules must be populated.	Yes	Power off system
System Memory SPD EEPROM	On System memory SODIMM(s) JDIMM1,2 present	Non-volatile memory 512 Bytes. Stores memory manufacturer data and timing information for correct operation of system memory.	No	Not applicable
RTC CMOS	UC1	Non-volatile memory 256 Bytes. Stores CMOS information.	No	Not applicable
Video memory – frame buffer	For UMA platform: using system DDR5. For DSC platform: UV34, UV35	Volatile memory in off state. UMA uses main system memory size allocated out of main memory. Discrete graphics system uses 4 GB: 2 x 2 GB, GDDR6 graphics memory.	No	Power off system
Security Controller Serial Flash Memory	U1 (up-sell USH daughter board)	Non-volatile memory, 128 Mbit (16 Mbyte).	No	Not applicable
SSD drive(s)	M.2 – 2230	Non-volatile magnetic media, various sizes in GB. SSD (solid state flash drive).	Yes	Low level format

TPM Controller	UK4	Non-volatile memory, 328 Kbits ROM.	No	Not applicable
Thunderbolt EEPROM	UT7	Non-volatile memory, 8 Mbits (1 Mbytes) flash memory. Thunderbolt FW.	No	Not applicable
Touchscreen Embedded Flash	Not applicable	Non-volatile memory.	No	Not applicable
Digital IMVP9.2 controller	PU4601	Non-volatile memory, 1204 bits Digital IMVP9.2 controller. (Total 162 index, each index 0/4/8 bits).	No	Not applicable
Intel ME Firmware	Combine on BIOS ROM	Non-volatile memory, Intel ME firmware for system configuration, security, and protection.	No	Not applicable
Security Controller Serial Flash Memory	Combine on BIOS ROM	Non-volatile memory.	No	Not applicable
ISH	Combine on BIOS ROM		No	Not applicable

⚠ CAUTION: All other components on the system board lose data if power is removed from the system. Primary power loss (unplugging the power cord and removing the battery) destroys all user data on the DDR5 memory. Secondary power loss (removing the on-board coin-cell battery) destroys system data on the system configuration and time-of-day information.

In addition, to clarify memory volatility and data retention in situations where the system is put in different ACPI power states, the following is provided (those ACPI power states are S0, S1, S3, S4 and S5):

- S0 state is the working state where the dynamic RAM is maintained and is read/write by the processor.
- S1 state is a low wake-up latency sleeping state. In this state, no system context is lost (CPU or chip set) and hardware maintains all system contexts.
- S3 is called “suspend to RAM” state or stand-by mode. In this state the dynamic RAM is maintained. Dell systems will be able to go to S3 if the OS and the peripherals used in the system, supports S3 state.
- S4 is called “suspend to disk” state or “hibernate” mode. There is no power. In this state, the dynamic RAM is not maintained. If the system has been commanded to enter S4, the OS will write the system context to a non-volatile storage file and leave appropriate context markers. When the system is coming back to the working state, a restore file from the nonvolatile storage can occur. The restore file must be valid. Dell systems will be able to go to S4 if the OS and the peripherals support S4 state.
- S5 is the “soft” off state. There is no power. The OS does not save any context to wake up the system. No data will remain in any component on the system board, that is, cache or memory. The system requires a complete boot when awakened. Since S5 is the shut off state, coming out of S5 requires power on, which clears all registers.

Table 2. Power states supported by Dell Latitude 5450

Model Number	S0	S1	S3/Modern Standby	S4	S5
Latitude 5450	X		X	X	X

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